ELEVATOR

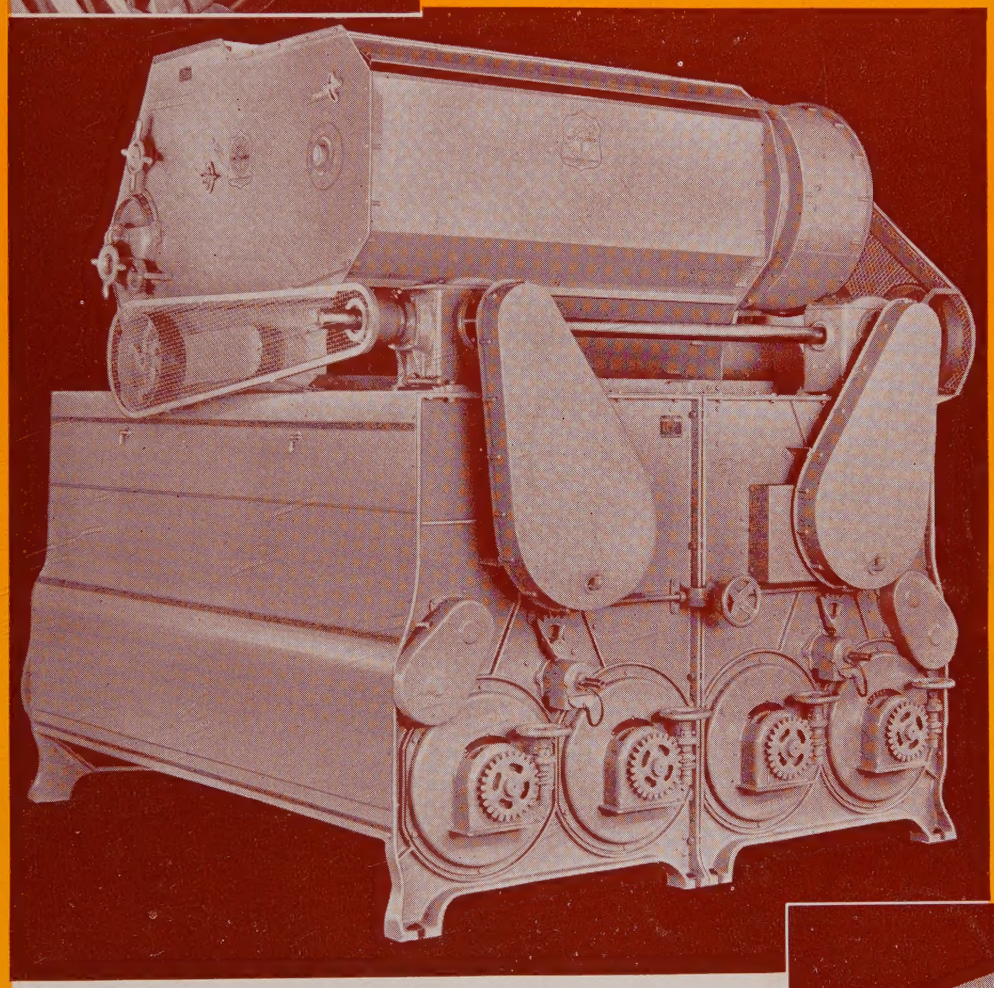
OPERATION

AND

MAINTENANCE

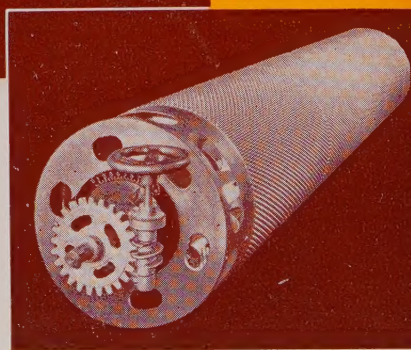
July 1938

DISCS and CYLINDERS Combined to give you Five Major Separations plus Scalping and Aspiration !



CLEAN MORE GRAIN BETTER — FOR LESS!

Here you have the two most successful methods of grain cleaning harnessed together in one machine to set new standards of accuracy, flexibility and capacity. Carter discs have been combined with Hart indented cylinders to provide five major separations at high capacity in one operation, plus scalping and aspiration. The Carter Disc-Cylinder Separator No. 2564 is a complete cleaner meeting all terminal requirements. It cleans barley thoroughly, with amazingly small shrinkage, separates spring wheat from durum, and is widely used for cleaning seed oats. Install this great cleaner for bigger profits as the heavy movement of grain begins!



Easy Adjustments Close Control!

Adjustments are simple to make and the operator has complete control over results. The machine maintains its accuracy under any adjustment at any speed or capacity. All-enclosed and dustless, it operates on extremely low power requirements.

HART-CARTER COMPANY

706 NINETEENTH AVENUE N. E., MINNEAPOLIS, MINN.

I am a Superintendent

I am a Superintendent.

I want my Elevator to be the finest plant in the country.

I want my men to work faithfully in the knowledge that I am right behind them.

I want them to know that they are as safe from accident at the end of the day as they were when the starting whistle blew.

I want them to know that each man is as important to me as the Elevator itself.

I want the Elevator to know that I am doing all in my power to keep it an efficient plant, free from crumbling neglect.

I want my business associates to know that I am truly trying to cooperate with them.

And I want my Boss to know that to the best of my ability,

I am a Superintendent . . . .

Editorial

By D. M. CLARK

HOW SAFE ARE YOUR PROFITS?

Where is your profit if, after a season of intelligent and efficient grain handling, your plant has physically deteriorated to a point that will cost far more in repairs than the gain won in operation? No need to look: there will not be any profits.

Heavy deterioration is not accomplished in one year nor over the course of several years. But deterioration in some degree is present in all plants—a steady, invincible process that nothing can stop and from which no elevator is immune. It is a problem that cannot be remedied by closing the eyes and ignoring it. It is a fact, and a costly fact to the super who attempts to minimize its importance.

Unquestionably there are many elevators badly in need of maintenance repairs today whose supers are trusting to casual and disinterested reports of employees regarding the condition of the premises. For the sake of efficiency this must be changed. A thorough and comprehensive analysis of existing physical conditions should be made immediately and from this survey an intelligent program of rehabilitation begun.

No doubt there are many supers who have already compiled an accurate estimate of necessary maintenance improvements but whose hands are tied by the refusal of their superiors to release the funds. This should and can be remedied immediately. Let the super show in black and white just how much money it is costing the firm in replacements that could have been postponed for years by proper maintenance. Estimate the probable cost of repairs for the next year and divide that sum into four equal parts. Begin a four year improvement program. In the fifth year, of course, the deterioration of the past four years will have to be taken care of, but from then on the project speedily pays for itself in greatly decreased operation costs.

There is no valid reason for permitting your profits to be washed out to sea by the costly crumbling of your property. A little foresight, a little planning, and a little expenditure will safeguard those profits you so painstakingly labor to build up.

GRAIN

BOARD OF TRADE BUILDING
CHICAGO, ILLINOIS
TELEPHONE WABash 3111-2

A forum for
OPERATIVE
and
MECHANICAL
PROBLEMS
in
TERMINAL
ELEVATORS

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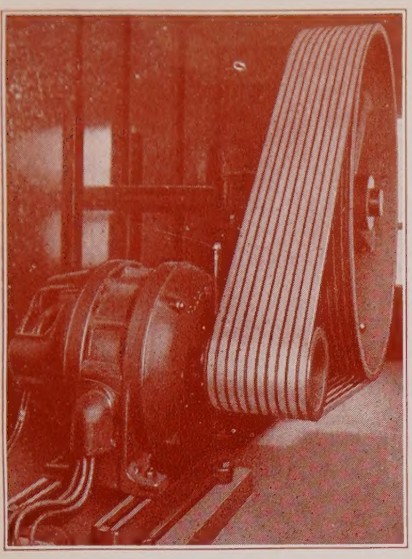

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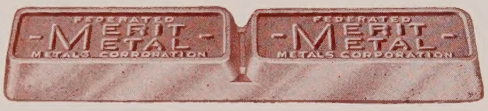
BE SURE IT'S THE RIGHT BABBITT

The "WRONG" BABBITT is just as bad for Bearings as a POOR BABBITT—or BABBITT that is improperly applied.



FEDERATED GENUINE XXXX NICKEL Babbitt will outwear the bearing. It is the best that money can produce or buy.

LIBERTY MOTOR Babbitt will not heat under high friction. It is sufficiently strong to stand constant impact and pound and its plastic nature permits a perfect fitting to the shaft.

THERE IS a BETTER Babbitt for general all around use . . . MERIT METAL, "The Universal Babbitt." It is perfectly alloyed from only selected grades of metals in exact proportions to give maximum service in machinery bearings.

We introduce BOVEALL Babbitt to you as the newest development of our Research Laboratories. We recommend BOVEALL Babbitt to you as the best general utility babbitt for heavy loads that the world's largest manufacturer of bearing metals know how to produce.

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Why Not Systematic Maintenance Control?

Says William H. Kamp,
Ralston - Purina Company, Kansas City

Our principal job in operating an elevator is naturally the mixing and blending and the handling of grains. For doing this job the elevators are equipped with various kinds of machinery such as scales, elevator legs, motors, separators, conveyors, power shovels, car dumpers, etc. Being myself associated with the operation of an allied industry, the feed business, as well as the operation of an elevator, I might say that we go a step farther in the kinds of machinery used in processing the grains and other ingredients when manufacturing feeds.

Coordination For Lowest Cost

In addition to the machinery in the elevator and in our feed plants we have men to operate this machinery. One other factor that we are vitally interested in is the handling and mixing of grains at the lowest possible cost per bushel, or the lowest possible cost per ton of feed manufactured. To do this we are confronted with the problem of organizing or coordinating men and machinery. You are all experienced in the organizing of men to do the job of handling and mixing grains at a minimum cost and I will not dwell on this particular phase of the operation.

Interruptions Costly

Isn't it true that if we have frequent interruptions in our production schedules by machinery failures our costs for handling bushels of grain or tons of feed will immediately skyrocket? You, as well as I, know this to be true and since you do know this to be true, why not do something about it?

You will all agree with me that organizing a crew to handle and mix grains is a small job for you men since you have done it many times. Then why not organize or plan a system of inspection for the maintenance of your machinery. This is as simple as organizing a crew of men. There are various systems that might be considered. I will mention several systems used, good and bad, and then enlarge to some extent on one which is in use and which we believe is simple and as free from red tape as possible.

(1) A system whereby the machinery is allowed to break down and then be repaired. (My comment on this is that this is really no system at all.)

(2) A system whereby we expect any man about the plant to report a piece of machinery not working properly and then arranging for the shutdown so that it can be repaired. (The failure in this system is that although it was possible to arrange for a convenient shutdown it was too late and it necessitated major repairs when it might have, with a proper inspection system, resulted in only minor repairs.)

(3) A system whereby a complete inspection of all machinery is made every three months over the entire plant and elevator. (This system is a great improvement over the other two, and will avoid many major repairs by taking care of the minor repairs as they are discovered in these inspections.)

(4) A system whereby a complete inspection of all machinery is made once a month. (This we believe is the ideal type of inspection and is worthy of a little more explanation.)

Keep Accurate Records

Whether you adopt the last mentioned type of inspection with the card index for your records, or arrange one to your own liking, the first step in any system would be to list on a memorandum all the machinery in the plant. List all the information on the name-plate of the machine, as to name of the maker, size, style, type, etc., of every piece of machinery. After this necessary information has been gathered on all the machinery over the entire plant or elevator, the next step is to record the same information on the card index system,—provided such a system has been decided upon for the permanent records.

After all the information has been transferred to the cards, a card for each piece of machinery, the

next step is to designate a man to make these inspections—a man who is capable of handling the job such as the superintendent, maintenance foreman, millwright or a skilled mechanic familiar with the machinery. It is suggested that the same man make all the monthly inspections so that he may be able to tie in one month's inspection with the next and recheck some peculiarity that he may have observed on inspection the previous month.

After every inspection the date thereof should be recorded on each card. If there were no repairs on a certain piece of machinery then the inspection date only should be shown on the card. If repairs are made they should show on the card with the date when they were completed. With this record any reference to these cards will reveal the type of repairs and the date on which they were made, or the date of inspection when no repairs were necessary.

It is not my intention to leave you with the impression that these monthly inspections are all that are necessary. While being around and about the elevator or plant many inspections are made every day on certain types of machinery and the monthly inspections are a necessary followup to be sure not to forget any and all parts and pieces of machinery in the entire plant.

Major Repairs Costly

I believe you will agree with me when I say that it has cost your employers large sums of money in lost production time, due to major repairs, when with an inspection system as outlined above they might have been only minor repairs.

If you do agree with me then is it not your duty to your employers to organize some sort of an inspection system that will warn you of the minor repairs and avoid major repairs? You and I are looking for low production costs, but this is impossible with lost time due to machinery failures.

It does not make any difference whether you use the above system of inspection or whether you arrange some other system so long as the system adopted serves your purpose best, and saves you the most money. Any system is better than no system at all.

Let me add that our aim as elevator superintendents is to handle and mix grains at the lowest possible cost per bushel. If our production costs are high it may be that our system of maintenance needs reorganization. If our production costs are low and we have no system of maintenance control, isn't it possible that with some kind of system we will still farther lower these costs?

As a superintendent you owe your employer sixty minutes out of every hour with better organization, so why not give it to him?

ANOTHER DUST EXPLOSION IN NASHVILLE

Nashville, Tenn. — Two more deaths have just been chalked up to Ol' Man "Dust Explosion," with several others injured. This blast shattered the upper stories of the Gillette Grain Company's elevator, ripped and twisted the steel window casements throughout, and wrought general havoc to boot.

★

MORE AIR, HE SAYS

By Bill Husband,
E. R. Bacon Grain Company, Chicago

Contrary to the opinions held by some, I believe compressed air definitely should be used during the general cleaning wherever accumulations are inaccessible to other means.

Plants should be shut down with windows open and fans operated during this process and, as important as anything else is the point that one place should be cleaned at a time.

Those with floor sweep fans will find them additionally beneficial.

★

NON-SPARKING LEG WELL CASINGS

By H. L. Heinrikson,
Terminal Grain Company, Sioux City

Experiments are under way with a bakelite leg well casing for the elimination of sparks which might be generated through the striking of a steel cup with present metal casings.

Now that rubber is available for spraying, a tough quarter-inch coating of this material might also obtain the same immunity without all the work of tearing out present installations. I likewise believe a moulded rubber bucket will eventually become standard equipment.

Taking all possible precautions known to avoid and to vent explosions has already saved untold lives and property so far this year.

★

VENT FOR SOUR GAS

By R. E. Browne,
Davis-Noland-Merrill Grain Company, Kansas City

One of our boys down here has invented a venting system for releasing the sour gases coming up from stored wheat. . . . Can't learn much about it as yet, but will keep you posted.

★

SEZ ZEKE WISEACRE:

Installing some new improvement in yer elevator is like buying the wife a present — it makes yer anniversaries a durn sight happier.

A DEPENDABLE PROPERTY APPRAISAL

Is Often the Difference Between Getting or Not Getting:—

Full Returns from Insurance

Reduced Taxes

Constant Operation

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DEPENDABLE APPRAISAL PROVES YOUR WORTH

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"APPRAISERS TO THE GRAIN TRADE"

THE OILER'S PRIMER

★

We had our oilers and millwrights attend the showing of a splendid talkie on lubrication presented before a recent chapter meeting here in Minneapolis — and everyone was well pleased with the interesting discussion that followed — By E. J. Raether.

VISCOSITY is usually the first property to consider, because it is a measurement of the resistance of fluids to flow. Commonly, viscosity number is the time in seconds that a measured quantity of oil will pass by gravity through a given aperture at a given temperature. The lower the viscosity the more freely oil circulates; select then the lowest viscosity commensurate with its being retained in bearings, and guard against failures and unnecessary wear more certainly than by the use of the heaviest or highest viscosity the machine will take.

FILM STRENGTH is an important consideration when lubricating heavy duty bearings, including chains, gears and cams. Viscosity has nothing to do with film strength; the strength of the film lies primarily in the ability of the oil to keep bearing surfaces wet; high viscosity oil often fails to flow fast enough, and it is the dry spots that start scoring and wear. Short of really extreme pressure requirements, film strength must be bought and paid for in quality.

FLASH POINT is relatively unimportant for ordinary lubrication purposes. Flash point is the temperature at which oil will produce vapors which will ignite, and that point in lubricating oil is ordinarily not under 300 degrees. However, in this industry especially, the higher the flash point of the oil, the nearer to safety from fire.

ACIDITY is that property in oils which must be reckoned with in service. The best of oils will develop some degree of acidity, and when excessive results in corrosion of bearings and journals; products of this corrosion in turn react on oils to form sludges and deposits. The difficulties encountered in this respect are directly proportional to the extent to which conditions of loading, speed, alignment, contamination, swings of temperature and mechanical design fall short of the ideal or normal. Oil does not "wear out" in the ordinary sense; it loses its original character by taking on some element or elements which destroy its balance or "stability." Selection of oil from this standpoint must be determined by how frequently it can be renewed at the point of work. Acidity is identified commercially by a "neutralization number" and a low number is a low acid value.

CARBON is a natural element of petroleum; carbon content of oil is significant chiefly in lubrication at very high temperatures in the burning range. It is well to consider the carbon element from the standpoint of residue, wherein a temporarily hot bearing would survive if not destroyed by the resulting carbon formation from a high carbon value oil. This is particularly true in bearings of the ball and roller type.

EMULSIFICATION refers to the manner in which oil mixes with and separates from water, the importance of this characteristic lying in the speed with which the water and oil separate at rest when an emulsion is not desired. For ordinary lubrication a simple test in a glass bottle is revealing. For steam engines and turbines the production of specialized oils has progressed in step with mechanical design of the machines, and need not be discussed here. Emulsification as regards greases is a separate subject.

COLD TEST properly belongs as a subdivision of viscosity, being stated roughly as the lowest temperature at which an oil will flow. **POUR TEST** is considered by some a better indication, but in either case it is an approximation generally of the ability of an oil to be useful as a fluid at the lower temperatures. It is an important characteristic in this industry where equipment is exposed to extremely low temperatures, and selection by such a test is essential. Blown fuses, broken gears and chains, repair labor and time out, will buy many gallons of oil with a little better cold test. There appears to be no practical measure of the adhesion and cohesion of different refinements and compounds of oils, but at low temperatures some oils will "break" more readily than others—that is to say they permit the starting movement of the lubricated parts before the resistance creates enough temperature rise to influence viscosity. The cold test is a reliable reference, however, in selecting oil for duty at low temperatures.

In a later issue we will talk about greases.

MAY BE HELPFUL

By T. C. Manning, Kansas City

T. C. MANNING

The authorative lubrication pamphlet issued by the Mutual Fire Prevention Bureau, 400 W. Madison Street, Chicago, ought to prevent some hot boxes with the present peak grain movement.

This text is well illustrated and merits close study.

★

SEZ ZEKE WISEACRE:

It's a heck of a lot easier to replace a worn-out bearing now than to rebuild a whole durn leg later.

★

VIA CABLE

Charlie Binbottom's car-puller went haywire last week. Seems that Charlie used the old cable so long it plumb wore out and snapped just as he was niggering a car into the unloading shed. The loose end whipped around and took off Charlie's right leg.

Not much harm done, though, because that was the wooden leg Charlie acquired ten years ago when the original cable snapped the same way.

★

POOR 'OL RESOLUTIONS

By E. J. Raether
Rosenbaum Brothers, Omaha

When sleeping comes hard one's thoughts naturally turn to everything else except rest, so it is not unnatural that the resolutions the Superintendents' Association have passed the last five years should pop up to further delay return to dreamland.

E. J. RAETHER

I think Percy Poulton had a dandy idea in the purchase of an oil filter by each Chapter and hope our Association is not getting like some others when it comes to forgetting new ideas.

★

SEZ ZEKE WISEACRE:

There's a lot of supers with sense enough to come in out of the rain who haven't got sense enough to waterproof their tanks.

NO MORE OBJECTIONS

By William Gassler,
Rosenbaum Brothers, Chicago

From time to time a correspondent cites the hazard of present fire-fighting equipment and temporarily there is a flurry of interest, but nothing ever happens.

WILLIAM GASSLER

A $2\frac{1}{2}$" fire hose takes two or three men to handle it and, 'tis said, the men will not run the risk of handling such an uncontrollable force with its unpredictable girations. That being the case, a fire hose ceases to be a precaution to checking a fire.

A night watchman WILL and readily CAN handle alone a one to a one-and-a-half inch fire hose, according to my information. Therefore it would seem that smaller hoses with cut-ins for present outlets would solve the problem cheaply and effectively.

★

Check these FIRSTS that make ROYAL FIRST!

First in SPEED . . . Greater volume! First in EASE . . . With nearly a score of exclusive time- and labor-saving improvements! First in CAPACITY . . . Better typing faster! First in ECONOMY . . . Lower operating costs! First in DURABILITY . . . Owners' records prove it!

Royal Typewriter Company, Inc.
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ROYAL WORLD'S NO. 1 TYPEWRITER

A REAL OLD TIMER

One day when John Quincy Adams was 80 years of age a friend met him on the streets of Boston. "How is John Quincy Adams?" this friend asked gaily.

The old man's eyes began to twinkle, and then he spoke slowly: "John Quincy Adams himself is very well, thank you. But the house he lives in is sadly dilapidated. It is tottering on its foundations. The walls are badly shattered, and the roof is worn. The building trembles with every wind, and I think John Quincy Adams will have to move out before very long. But he himself is very well."

And with a wave of his hand the old man walked on.

★

CORN IN SOAP

By Harold Wilber,
A. E. Staley Manufacturing Company, Decatur

Corn is now being used as a cleansing agent in much of the mechanics' soap sold,—and with superior results.

PROTECT
Your Concrete Elevator
NOW
The longer you wait the more repair work (and cost) you'll have.
WE REPAIR, WATERPROOF AND PRESERVE CONCRETE SURFACES BY THE PROPER METHODS AND COATINGS.
Write us Today!
WYATT & REED
Waterproofing Contractors
710 CENTRAL STREET KANSAS CITY, MO.

About Folks You Know

★

From 'way down in Wytheville, Va., comes W. G. Groseclose, Super par excellence and Stock Raiser deluxe. The popular superintendent of Kellogg Grain and Elevator Company's CGW Elevator in Kansas City, Kansas, is well known in the trade for his practical efficiency in grain handling, and K.C.'s famous stockmen vouch that he carries the same thoroughness and enthusiasm into his hobby of raising cattle and hogs.

W. G. GROSECLOSE

Super Groseclose, like so many of the oldtimers, started his career in the grain business the hard way —on the jockey end of a shovel. It was back in 1915 that he was put on shoveling by the Kimball Milling Company of Fort Worth, Texas, and from that job he moved on up to shipping clerk and finally to superintendent of the mill and elevator. The Virginian had what it takes.

In 1924 he accepted the position of superintendent in the Frisco Memphis Elevators, operated by Lathrop-Marshall Grain Company, and for eleven robust and successful years he guided the destiny of that busy plant. In 1935 he came to his present spot in the CGW Elevator where it is unanimously acclaimed that the super's job is being carried on superbly in the best Groseclose tradition.

If you really want to see the Groseclose eyes light up, just ask him about his family. He plunges into the topic with all the enthusiasm of an SOGES Chapter welcoming a new member and roars: "You ought to see them! Two fine married daughters and two big lads in high school. The oldest boy — he's seventeen — tips the beam at 194 pounds of bone and muscle and, man! does he hit that line on the gridiron! He's planning on being an electrical engineer. The youngest lad takes to cattle and hogs just like his dad. Wouldn't surprise me a bit if he made my avocation his vocation!"

HOW ABOUT IT?

What happens when you discard an old machine and replace it with a new one?

The old machine may have a productive life of ten more years but its proper place is in the junk heap. Like a fifty-year-old geography text book it lacks utility. It is not an efficient tool.

Leaders in industry have long perceived the wisdom of promptly scrapping inefficient machinery. The measuring stick of cost is operation and not the condition of the gears and other parts of the out-of-date machine. Suppose the old machine did cost $1000 three years ago and stands at $700 on the books today. It can be replaced with a new machine that will cut production costs in half. The new machine will quickly recover its own price and then earn handsome profits.

Why wait for the old to wear out before enjoying the benefits and profits of the new?

HOW?

How can you sensibly budget the complete rehabilitation of your plant?

How to make the Front Office cheerfully hand over the necessary funds?

What do you see when you inspect your property?

Why should belts be painted with yellow stripes?

How does paint help remedy static problems?

How can you make the danger zones in your plant safer?

Did you know that the ideal waterproofing system keeps moisture out and also permits moisture to slowly pass from the inside outward?

How does three inches of poured concrete sometimes result in only ONE inch of wall?

These and a host of other problems are startlingly answered in THE SOGES HANDBOOK OF MAINTENANCE, by J. N. Thompson.

This authoritative booklet will make a new plant out of your old one and a new man out of YOU!

Send for your copy today! FREE to all accredited members of the SOGES!

Don't delay! Your plant won't rejuvenate itself!

Hurry up, youse pepsters!

Play Safe!

Protect elevator legs against dust explosion hazards with:

Robertson Safety Ventilators

Throughout the country Terminal Elevators are protected by Robertson Safety Ventilators.

For balanced Ventilation of grain storage bins use:

Robertson Capacity Bin Ventilators

Guaranteed not to give more than .0026 water gauge resistance and not less than 324% free area outlet vs. stack area.

For easily-erected, permanent and maintenance-free Terminal Buildings, use:

Robertson Protected Metal

Corrugated Roofing and Siding

Write at once for information.

H. H. ROBERTSON CO.
2000 Grant Bldg.
Pittsburgh, Pa.

WHAT NEXT IN BINNING?

★

by ROY L. BROWNE

Davis-Noland-Merrill Grain Company, Kansas City

★

A few years ago when we loaded a car of grain the Inspector climbed up into it with his testing bucket and pulled the grain over into the bucket with his hands, struck it off with the beam and weighed it; took some of the grain in his hand, looked at it and announced the grade. You paid no attention to dockage, fine wheat or protein.

★

CALUMET CUP U.S.PAT. 1944932

LOOK

for this stamp and patent number on each bucket.

THE CALUMET

(Protected by U. S. & Foreign Patents)

We are the sole licensed manufacturers under this patent and sole owners of the patent

We are not responsible for any data sent out by others purporting to be for use with the Calumet Cup.

Watch for announcement soon of a real cup for handling flour and other soft and sticking material.

★

We handle a complete stock of Norway Flathead Bucket Bolts and Spring Washers.

★

B. I. WELLER

Sole Manufacturer

327 S. La Salle St., Chicago, Ill.

220 W. Chicago Ave., East Chicago, Ind.

R. R. HOWELL & CO., Minneapolis, Minn., Northwest Distributors

What a difference from the present method of arriving at a grade. You binned your wheat by test and grade. Then later you binned it by color, test and grade and you gave color a name. The buyer learned the name and bought most of your wheat by sample. Then someone discovered protein and so protein was added to your binning and you blended for protein as well as test and grade.

ROY BROWNE

The Terminal Elevators, in their attempts to keep up with the Mill wheat buyer, discovered some of the secrets of what kind of wheat the Miller wants and why. There entered into his vocabulary of wants and requirements along with the protein, the new term "ash;" now comes "baketests" or the chemists' full analysis of the wheat in the finished loaf.

You will notice most Elevator Superintendents are gray-headed from wrestling with protein, ash, color, etc. We are wondering what it will do to you when you sell all your wheat by baketests—and you men can expect this in the near future—and you will of necessity carry on your bins not only grade test, protein and ash, but also the size or volume of the loaf, the bromated loaf, the texture of the bread, the color of the flour, etc.—which means your elevator will have a miniature mill and baking oven. Our advice is to discourage this step in the grain trade.

Millers' Language "Greek"

When the Miller wants certain kinds of wheat to strengthen his stock of wheat, he starts in by asking you for samples from which he makes baketests. You may submit to him samples of wheat which may not be what he wants at this particular time—yet you may have an abundance of the kind of wheat he wants—so you lose the sale. He may or may not be wanting low ash, for which he would be willing to pay a premium, or perchance he may want a certain kind of wheat to bolster the texture of the loaf or to

give his "plus loaf" additional kick. If the Grain Firms or Elevator Superintendents talked his language then he could tell us what he wanted and we could give it to him.

There are a great many things involved in this departure from regular procedure. The Millers' wants are controlled by the Bakers' demands, therefor it will be necessary for the Grain buyer to discover from which territory low ash is coming each particular year just as the mill buyer has been doing for the past fifteen years. This means a greater rivalry for certain wheats whereas other kinds of wheats will be a drug on the market. This means you will be blending then not only for test and grade and protein, but also for ash, volume, texture, etc.

We haven't touched on the gassing power or color of crust or crumb.

We will then discover the effect rye has on color, or what effect dead wheat has on the volume, or the effects of heat-damaged kernels has on texture or the (what kind) of sprouted wheat to use for the bromated loaf.

We cannot go into detail on this subject, but just as sure as protein has entered into your vocabulary, the terms ash, volume, color, etc., are coming.

★

SPLASH BOARD FOR AERATION

By W. E. Coufield, Chicago

During the present grain movement season it might prove profitable if some of the boys tried out different varieties of splash boards to improve the aeration of stored grain—and bring their results to the next convention.

★

HERE'S AN IDEA

By James Auld,

Northwestern Malt & Grain Company, Chicago

Workman have been trapped in the workhouse or conveyor galleries of grain handling plants during a fire or after a dust explosion resulting in a fire. How shall they escape with no enclosed fire escape?

Some don't!

A simple home-made device that is very inexpensive and should make escape easy would be a cable running diagonally to the ground with brake-equipped straps for the legs. It should prove foolproof in an emergency.

★

SEZ ZEKE WISEACRE:

You gotta put more than yer time into a plant to keep payday coming 'round.

OTTO BAST IN FOR SELF

Mr. Otto F. Bast, President of the Grain & Feed Dealers National Association, has engaged in the grain business on his own account under the name of the Bast Grain Company. With offices in the Chamber of Commerce and with a host of friends throughout the entire United States and Canada he is assured of greater success than ever.

★

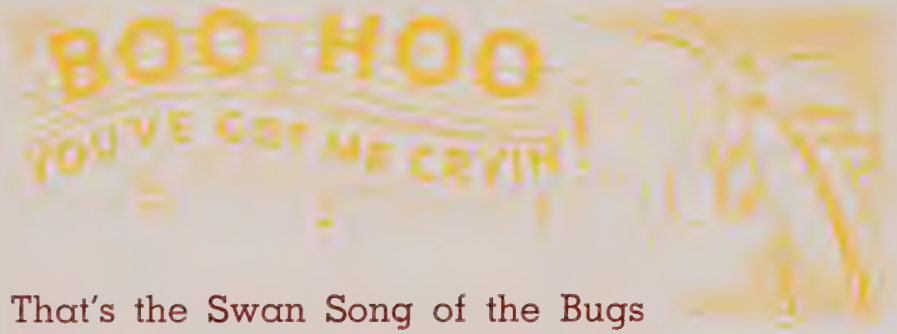
TUNNEL FANS ON BELT

By Oscar Olsen,

Peavey Duluth Terminal Elevator Company, Duluth

I believe all unloading tunnels should be equipped with ventilating fans to automatically run whenever the belt runs. This could readily be accomplished with power off the belt.

Also, in climates subject to dust explosions (Mr. Heinrikson please read the foregoing again) such fans could be equipped to run by an auxiliary motor for use on sultry days—when most explosions seem to occur.



That's the Swan Song of the Bugs when they meet up with LARVACIDE

First Cryin'—then Dyin'. No encores are needed with this powerful gas fumigant. LARVACIDE's penetrating fumes leave no survivors • Gets grown-ups—AND the rising generation—AND the eggs, sterilizing the latter so they won't be hatching later to start the fun all over again.

A Rabbit's chance of putting a Bulldog out for the count is a hundred to one shot, compared to a Bug's chance against LARVACIDE.

START by having Clean Storage Bins

Pour a quart or less of LARVACIDE through top opening into empty bin. This will guard incoming clean grain against contamination—a weekend job. No production time lost.

And for Weevily Grain—TREAT GRAIN STREAM every 15 minutes with two fluid ounces of LARVACIDE—for each 100 bushels. Be *extra generous* with first and last hundred bushels.

LARVACIDE gives you the kind of *resultful* fumigation you've *hoped* for—but never managed to *get*—Efficient—Lasting, hence Economical—Non-Contaminating too!

And to this, add—SAFER, for LARVACIDE's inseparable warning quality protects your operators • No special equipment needed. No fire or explosion hazard.

LARVACIDE makes it easy to answer that one. It means:

LESS Time on INSECT CONTROL, MORE Time to go FISHING.

Write for 42 pp. illustrated Manual —SAFER FUMIGATION.

INNIS, SPEIDEN & COMPANY

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★

NEW "HIGHS"

"Perfect records" are being established by Washburn Crosby's Buffalo and Louisville plants and by Ralston-Purina's Kansas City plant, according to the National Safety Council. The Buffalo plant set a new high with 300 days or 1,000,000 man hours without a lost-time accident superseding the previous record of 286 days and 917,988 man hours. They are shooting at 365 days.

Ralston-Purina's plant just completed 215,000 and the Louisville plant 150,000.

RAETHER TO OMAHA

E. J. Raether, National President of the Superintendents' Association is now located in Omaha, operating the Illinois Central Elevator there for Rosenbaum Brothers of Chicago. His address is 13th and Ohio Streets.

"We are sure glad to have him with us," writes Arvid Anderson of Crowell Elevator Company," and have him as guest of honor at our monthly chapter meeting on July 12. We invited all the boys and I am sure they will be out to meet their new president."

ARVID ANDERSON

Charter member Anderson just moved from Raether's elevator to the Rock Island Elevator in Council Bluffs, 30th and 1st Avenue.

★

REALLY HUMPING

Things are sure percolating at top speed, according to Gil Lane, second vice president of the Superintendents' Association, who reports having added 80 men in the past 60 days.

★

ANOTHER BLAST FEARED

Special apparatus was used to extinguish a fire, presumed to have been started by spontaneous combustion in the Michigan Avenue plant of the Kellogg Grain & Elevator Company in Buffalo, for fear of another explosion. The fog nozzles are credited with confining the damage to a bin of 300 tons of soybeans that were gradually removed and the fire finally extinguished.

★

Something will have to be done about the corn crop if it keeps on raining.

HORIZONTAL

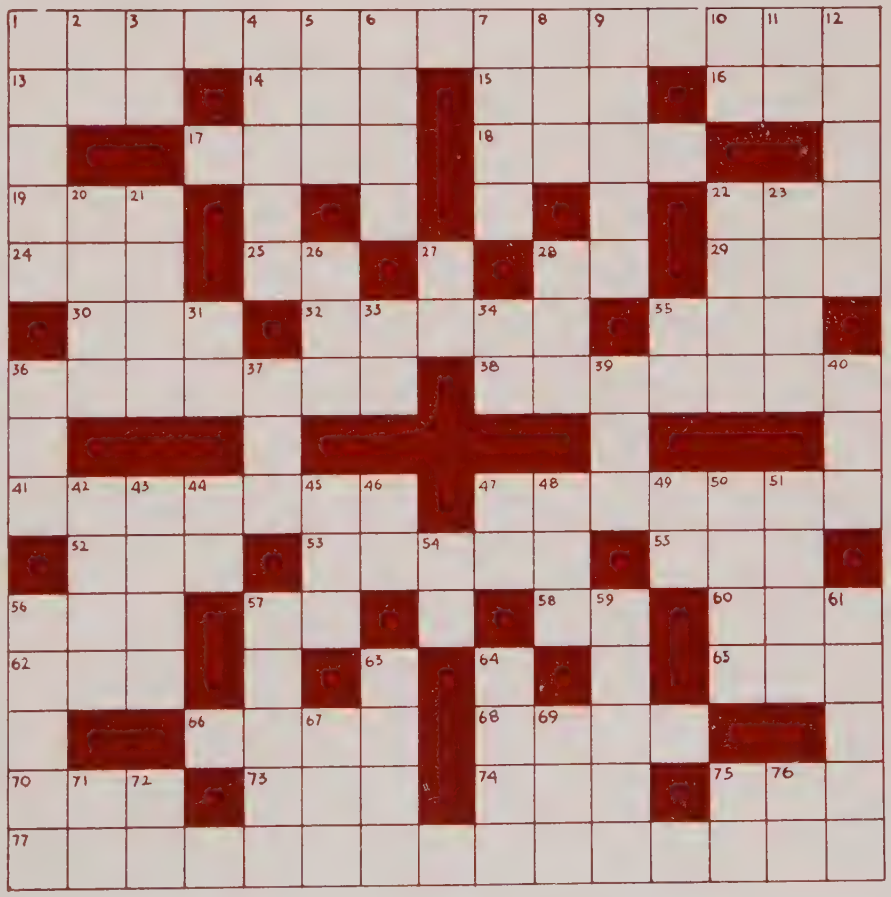
1. God's Noblemen
13. What a Super Never Is
14. A southern twinkle
15. Before the poets
16. A mama piggie
17. An officious inspector
18. What the SGES does
19. Stop
22. He chews snuff
24. This comes after due
25. O. K. (abbr)
28. Elevator nuisances (abbr)
29. Elmer Karp's necessity
30. How Secretaries feel upon opening mail
32. Sorghum
35. Found in wires
36. John Garner of the SGES
38. The Tops!
41. Past President
47. New director
52. A super's ideas
53. After the egg
55. Many of these put you in a lather
56. French Canadian for saint
57. Right
58. Steel highway (abbr)
60. A non-teetotaler
62. 36 horizontal
65. King George
66. Found in Thunder Bay
68. Before you leap
70. To move the face down and up
73. Yale graduate
74. Not much
75. A he turkey
77. More God's Noblemen

VERTICAL

1. That Old Gang o' Mine
2. Unsatisfactorily loaded (abbr)
3. What the secretary loves to stamp accounts (abbr)
4. What poor Supers are getting
5. Man's name
6. Takes
7. Wigglers
8. Born
9. A bin after shipment
10. Nova Scotia
11. Towards
12. Any SGES Elevator's grain
20. National Underwriters Mechanical Ass'n (abbr)
21. The secretary bird
22. What Andy says to Amos
23. Watch him get memberships!
26. All it costs to join
27. Bedtime for 21 vertical
28. SGES is having a new one
31. D - - - n
33. Musty Grain (abbr)

VERTICAL — CONT.

34. Last third of summer
35. Impersonal pronoun
36. "GRAIN" (abbr)
37. How sick wheat feels
39. Elevators Men Understand (abbr)
40. What grain will do in a spout
42. Favorite aunt of 23 vertical
43. The start of the grain business
44. Two wheat areas (abbr)
45. Something like a moose
47. Oscar's outfit
46. Royal Alberta (abbr)
48. A papa paddle
49. The long and the short (abbr)
50. A Scot's opinion of water
51. It hangs around off grain
54. First half of room
56. What the bee did
57. Safety First!
59. Underpinning of grain
61. Directs from Milwaukee
63. A well known Holdover
64. Modern name for gang
67. Little live pests (abbr)
69. Underground metal
71. Else
72. Department of Agriculture
75. Towards
76 One third of Orstad



CONTEST DEAD-LINE APPROACHING

By C. W. Turning
Safety Contest Director, Duluth

The Safety Contest deadline is rapidly approaching and advance warning thereof should be sent all Superintendents.

I believe that this years' contest will attain good results in reducing the number of accidents, making men safety-minded, and will increase the interest in whatever safety work is now being done by individual companies.

The committee believes, therefore, that each grain handling plant SHOULD be urged to enter the contest for the benefit of all concerned. The $10 contest fee will practically all be returned to those entering in the way of posters, safety material, booklets, etc., and the committee believes the small fee is well justified.

★

CAUGHT IN BELT

Frank Walton of Fort William suffered a fracture and lacerations of his right leg when the limb, in some manner, was caught in the moving part of a belt while he was making a test.

Developments in Dust Explosion Prevention

By DAVID J. PRICE Principal Engineer in Charge

Chemical Engineering Research Division, Bureau of Chemistry and Soils, U. S. Department of Agriculture, Washington, D. C.

★

Presented as the Report of the Dust Explosion Hazards Committee of the National Fire Protection Association

★

Last year the Dust Explosion Hazards Committee called attention to the marked reduction in losses from dust explosions in recent years in such food industries as starch and corn products plants and flour mills, in comparison with losses in some of the other grain handling industries to wit:

> *"Although losses from dust explosions have been reduced materially in the food-manufacturing industries in working out and adopting practical safety and preventive measures against dust explosions and resulting fires, there is still need for more definite attention to the application of methods for the control and prevention of dust explosions in grain elevators.*****This is a very positive indication that more definite attention must be given to dust explosion prevention in grain elevators."*

Still Lagging

It is necessary to again indicate in the Committee report this year that this phase of the dust explosion problem still demands attention. It is very gratifying that the Bulletin of Research Number One issued in last December by the Underwriters' Laboratories entitled "Control of Floating Dust in Terminal Grain Elevators" is prefaced with the above quotation from our Committee Report. This new 1937 edition presents recent data representing current practice.

Lessons from Recent Explosions

In the investigation and study of dust explosions it is always interesting to determine what new facts may be developed to contribute to our existing knowledge of the problem by analyzing the lessons that might be learned from recent occurrences.

In this very limited resume of some of the explosions that have occurred since the last annual meeting of the National Fire Protection Association in May of 1937 we might refer to what could be termed the "discouragements" and "encouragements" of the undertaking.

After more than twenty-five years of research studies it would be proper to expect that officials and employees engaged in the operation of industrial plants and equipment where combustible dusts are produced would be fully informed on dust explosion hazards and the methods that should be adopted for their control and prevention, but let's look at the record:

Explosion in Brewery Boiler House

An explosion in the boiler house at a brewing plant in New York City on March 4, 1938 resulted in the death of five persons, injuries to several others and extensive damage to the building and equipment. The explosion occurred during the elevating of coal tar pitch, used for fuel, from a delivery truck on the street level to the top of the storage bunker on approximately the fourth floor level of the building. The use of electric welding equipment during repair work on the steel elevator leg casing while the equipment was running was responsible for the ignition of the pitch dust cloud produced in connection with the unloading, elevating and storing operations.

The investigation developed that although the operating official had been in charge of the boiler house for approximately fourteen years, he was not adequately informed on the dust explosion hazard.

This explosion definitely shows that repair operations of any kind in plants where explosive dusts are produced should not be carried on while equipment and apparatus are in operation.

Corn Starch Explosion

In contrast with the above it is of special interest to consider an explosion which occurred in a corn starch factory in Pekin on December 16, 1937. No employees were burned or injured and the property damage was less than $500 because employees and the management were familiar with the dust explosion hazard and had applied the recommended protective measures included in the Safety Code 562.

The fact that no employees were injured and the property loss was small is particularly significant when it is remembered that a previous explosion in this plant in 1924 caused the loss of forty-two lives, injuries to many others and property damage of about $750,000.

There has not been a life lost from a dust explosion in the starch and corn products industries since September, 1930, a period of over seven and a half years. This remarkable record is a significant indication of the value of the work of the safety organization in this industry. It shows progress in dust explosion control and prevention and can certainly be classified as an "encouraging" sign in this undertaking.

Malting Company's Grain Elevator

A dust explosion occurred in a grain elevator in Minneapolis on March 23, 1938 while a car of rye screenings was being loaded for shipment. Two men were killed, six others were injured and the property damage amounted to about $250,000. The two men killed were the superintendent of the plant and a representative of the Minnesota State Weighmaster's office who was in the elevator at the time of the explosion. The explosion occurred when a spark produced in the loading operation ignited a grain dust cloud on the first floor.

The investigation of this explosion indicated the necessity of developing methods of controlling dust produced in such operatoins, and also called attention to the importance of providing means for releasing

MOVEMENT HITS NEW HIGHS

Carloadings of grain and grain products, according to official reports from Washington, are soaring week after week, bringing new wealth to everyone from producer to purveyor at the customary margin per bushel. Estimated at 2,000 bushels (not pounds) per carload — any shortage being compensated by overages in grain products shipments — brings the weekly movement into two and three figures in the millions column, as follows:

	1938	1937
July 9	56,334	50,954
July 2	50,954	41,996
June 25	41,996	36,568
June 18	36,568	29,184
June 11	30,184	27,160
June 4	26,332	22,124
May 28	33,344	27,262
May 21	32,160	25,705
May 14	32,226	26,476
May 7	32,549	27,093
Apr. 30	35,338	27,459
Apr. 23	32,763	27,730
Apr. 16	31,215	29,113
Apr. 9	28,781	29,241
Apr. 2	31,571	31,683
Mar. 26	37,898	27,779
Mar. 19	30,452	29,779
Mar. 12	31,429	28,387
Mar. 5	33,039	28,230
Feb. 26	30,215	27,342
Feb. 19	31,774	29,458
Feb. 12	32,256	29,598
Feb. 5	32,282	28,211
Jan. 29	31,611	29,607
Jan. 22	36,151	29,514
Jan. 15	42,393	31,482
Jan. 8	39,672	29,860
Jan. 1	28,991	25,747

★

VOX POP

Sirs: — I have followed your magazine since its inception and I want you to know that I think it is absolute tops in our field. — John Maguire

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IN DESIGN ...
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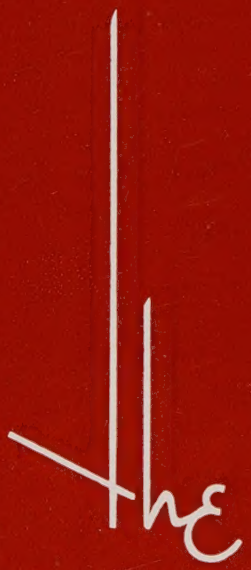

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DAY DUST
CONTROL SYSTEM

Write for Information
The DAY Co.
2938 Pillsbury Ave., Minneapolis, Minn.

pressure through properly designed and properly proportioned vents.

New Orleans Grain Elevator

An explosion in the Public Grain Elevator at New Orleans, La., on April 4, 1938 caused the loss of six more lives and injuries to sixteen others. As the result of the application of precautionary measures for dust explosion control, the property loss was comparatively small, about $20,000, and the plant was not structurally damaged. Full operations were resumed within a week after the explosion.

The explosion occurred during the handling of yellow corn. One of the men who died as the result of burns received in the explosion was a member of the Federal Grain Supervision force of the U. S. Department of Agriculture. A grain inspector employed by the New Orleans Board of Trade also died as a result of burns.

The investigators concluded that the explosion, which occurred during the normal operation of the elevator, was caused when a flash from a 35 H.P. induction-type motor connected to a dust collecting fan on the first floor, ignited the corn dust cloud. The open type construction recommended by the Dust Explosion Hazards Committee for the release of explosion pressures prevented greater property damage. It is a very definite example of the effectiveness of venting measures and is another "encouraging" sign.

Nashville Feed Mill

Eleven men were injured and property was damaged to the extent of approximately $85,000 by an explosion on April 29, 1938 in the mill and elevator section of a feed mill in Nashville, Tenn. The investigation of this explosion is still in progress. Preliminary reports indicate that the original ignition probably occurred in the unloading and elevating of corn and the explosion propagated into the concrete storage bins where sufficient high pressure was built up to cause extensive damage to the structure.

1938 has started out very discouragingly. Let us hope it improves with age.

★

REVAMP BASEMENT IDEAS

By Henry Cox, Chicago

I think basement windows should be lower and basement floor levels higher so that this section of the plant could be aired better.

★

SEZ ZEKE WISEACRE:

I allus maintained that ef you don't maintain yer elevator, yer elevator won't long maintain YOU!

DUST EXPLOSION PREVENTION

A la Corn Products Refining Co.

Dust explosions start with a flash, followed by an explosion, then another and perhaps a whole series of them. It is impossible to stop them once they start.

Eliminating the cause of the flash calls for a variety of precautions:

1. Do not let dust accumulate — no dust no explosion.
2. Be particularly careful to keep the dust removed from walls, ledges, sills, or any other place it may lodge, particularly overhead places. The vibration of the first flash shakes down this dust, and it may reach the right mixture with the air to result in a terrific explosion.
3. If you can find ways of keeping all dust confined within the machinery, or appartus, in which it originates, so much the better.
4. Keep all open flames away, and take every possible precaution to prevent sparks. — No spark, no flame, no explosion.
5. Smoking where there is flammable dust is an inexcusable offense.
6. Do not carry matches in your pockets.
7. Use no tools that may strike sparks.
8. Do not use any portable extension electric cords, and never use an unprotected electric light globe.
9. Keep all oily rags in approved metal containers.
10. Be careful at all times not to allow dust to accumulate around electrical equipment or steam pipes and other heating equipment.

A La Ralston Purina Company

Ralston-Purina Company paticularly avoids:

1. Open light bulbs of any kind.
2. Any flame, from a match, welding torch, etc.
3. Dust accumulating in motors.
4. Hot bearings.
5. Sparks in light switches, circuit breakers, or fuse boxes.
6. Oily rags.
7. Static electricity on belts or equipment.

★

ANOTHER THEORY

Another theory on dust explosions is that as the dust decomposes then moisture and hydrogen are released. Presumably the deduction is that these are highly spontaneous and volatile.

BEST PRECAUTION IN THE WORLD

Dear Mr. Editor:

An Old Timer dropped in at the Elevator office the other day and made a statement I think well worth passing along. He said, "You modern Supers are all safety-conscious but did you ever stop to think that proper maintenance of your plant is the best safety precaution in the world? In fact, I'm willing to wager my next month's pension that the majority of accidents are due to allowing something in the elevator to become obsolete and run-down!"

Well, Mr. Clark, I got to thinking about this angle and I did a little research. I found that the records bear out the truth of the Old Timer's statement. Nearly every accident is caused by faulty conditions which never would have existed if an up-to-date system of maintenance had been followed.

Yours very truly,
Member No. 143

★

SEND IN YOUR ACCIDENTS

By Oscar Olsen, Duluth

Those Superintendents having unusual accidents should pass the details along so that others may profit and prevent a similar injury or fatality.

★

IS KNOWN BY

Dear Mr. Editor:

A Super is known by the Elevator he keeps.

Yours truly,
Member No. 00000¼

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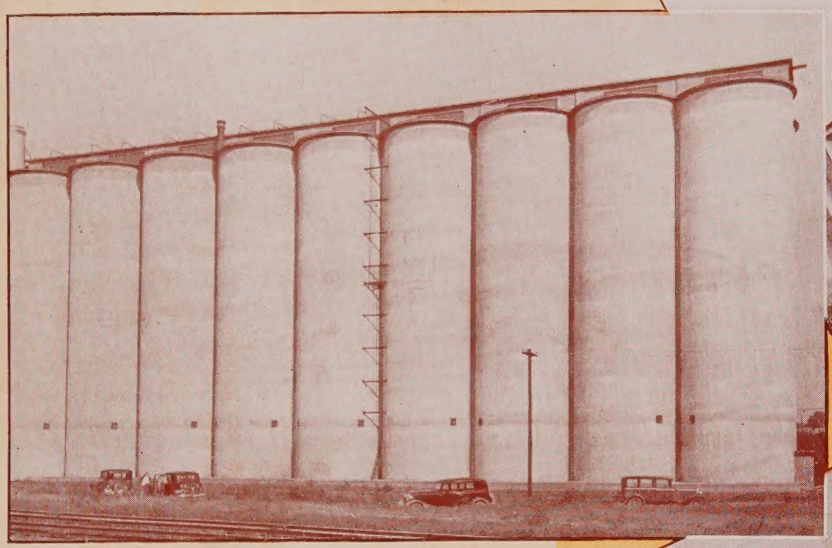

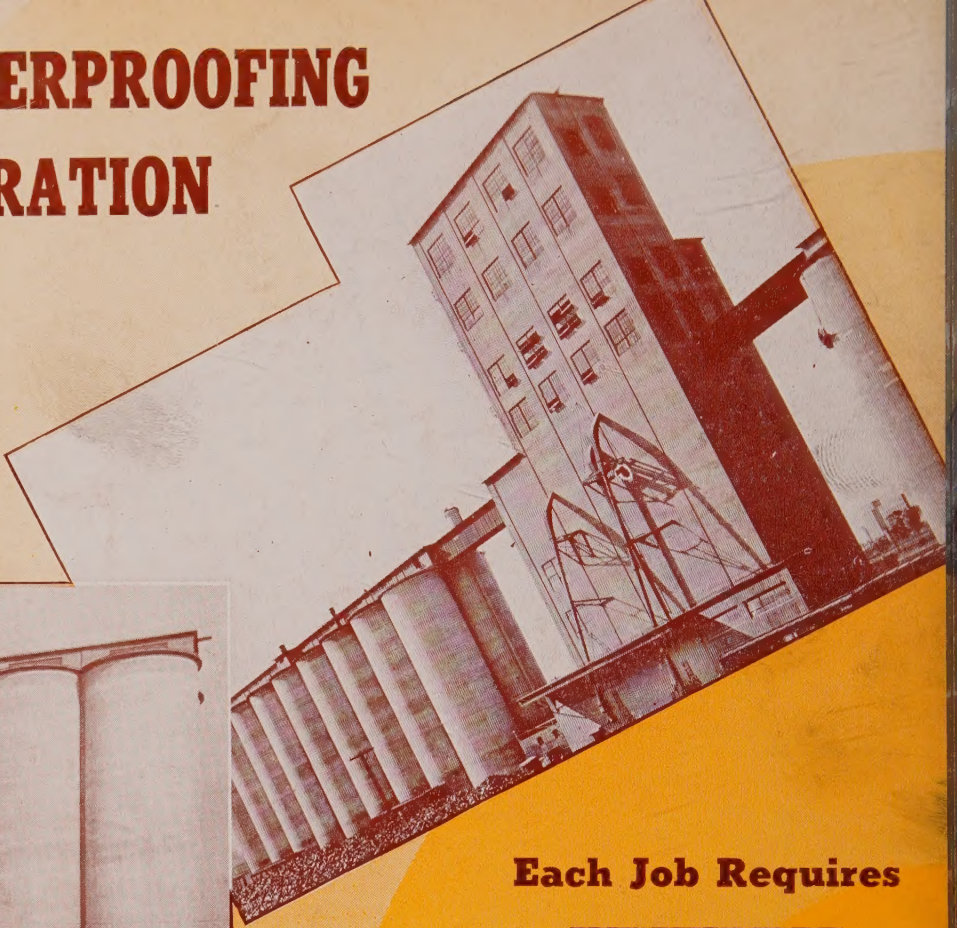

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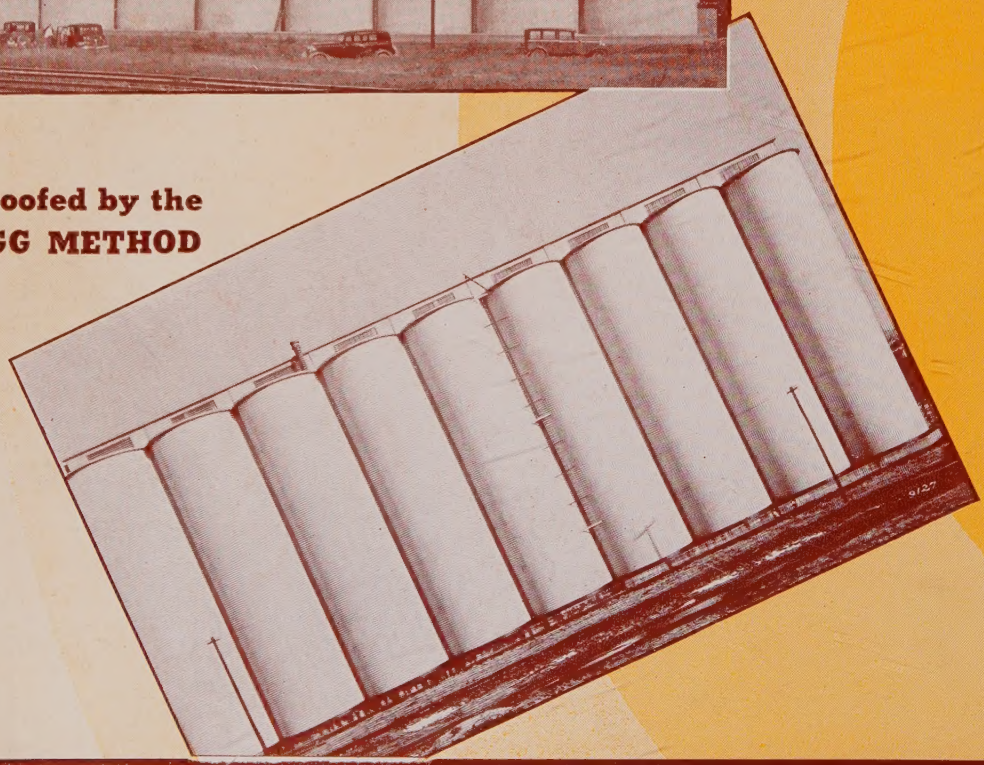

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